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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MONROE, CT 06468

EXAMINER

MAYES, MELVIN C

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,448

Applicant(s)

KAZ ET AL.

Examiner

Melvin Curtis Mayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47 and 49-92 is/are pending in the application.
4a) Of the above claim(s) 51-55, 59-79 and 86-92 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 47, 49, 50, 56-58, 80, 81 and 85 is/are rejected.
7) ☒ Claim(s) 82-84 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

(1)

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(2)

Claims 47, 56, 80, 81 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by Bilhorn 3,740,270.

Bilhorn discloses a method of making duplex electrode (multilayer electrode or electrode assembly) comprising: applying coatings of conductive adhesive (first layer of rolled on reaction layer) on a metal carrier strip (carrier) by applicators by techniques such as rolling; and applying negative electrodes (reaction layer) on one of the coatings by applicators such as spray deposits of particles of metal by flame spraying; and providing liquid impervious layer member (membrane) on outer positive electrode (outer function layer) to form a multicell battery (col. 2, line 60 – col. 3, line 46, col. 6, lines 66-70).

Flame spraying of metal particles is spraying in a dry manner (see Tsukagoshi et al. 5,120,665 which teaches that flame spraying is a dry method (col. 8, lines 54-56).

(3)

Claims 47, 56 and 80 are rejected under 35 U.S.C. 102(b) as being anticipated by Kilduff 3,751,301.

Kilduff discloses a method of making an electrode (multilayer electrode or electrode assembly) comprising: applying a conductive coating to a metallic shim; applying an active

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material coating of lead dioxide particles in resin (first layer which is a reaction layer) to the conductive coating (carrier) by roller coating; and applying a coating of dry lead dioxide particles (function layer which is a reaction layer) to the active coating by spray coating (col. 2, line 58 – col. 5, line 60).

(4)

Claims 47, 50 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugikawa 5,531,955.

Sugikawa disclose a method of making a metallic porous sheet for use as an electrode plate (multilayer electrode or electrode assembly) comprising: applying adhesive agent (first layer) to a porous sheet such as mesh sheet (carrier mesh) by roll coating; and applying metallic powder to the adhesive agent by spraying from jetting devices to form a conductive metallic layer (function layer which is a reaction layer) (col. 8-10).

Claim Rejections - 35 USC § 103

(5)

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(6)

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bilhorn in view of Shirodker 3,859,134.

Bilhorn discloses that the conductive adhesive to be applied by rolling may be thermosensitive (col. 3, lines 19-21).

Shirodker teach that thermoplastic (thermosensitive) adhesive is applied as a coating using heated rollers (col. 3, lines 24-34).

It would have been obvious to one of ordinary skill in the art to have modified the method of Bilhorn by rolling thermosensitive adhesive on the carrier strip using heated rollers, as taught by Shirodker. The use of heated rollers to apply thermosensitive adhesive would have been obvious to one of ordinary skill in the art to keep the adhesive in fluid form until applied by rolling.

(7)

Claims 47, 50 and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Door 4,992,126 in view of Munshi 6,758,868.

Door discloses a method of making a current collector/electrode/membrane assembly comprising: providing a foundation layer (carrier) of carbon cloth (carrier mesh); applying a binder in solution or dispersion (first layer) to the foundation layer by a method well known in the art; and applying catalytically active particles such as platinum to the binder-coated foundation layer by spraying (col. 2, line 30 – col. 5, line 32).

Munshi teaches that method of casting or coating include knife coaters, doctor blade coaters, screenprinting, wire-wound bar coaters or Mayer rods, air knife coaters, squeeze roll or kiss coaters, gravure coaters, reverse roll coaters, cast film coaters, and transfer roll coaters (col. 16, lines 4-21).

It would have been obvious to one of ordinary skill in the art to have applied the binder solution or dispersion to the carbon cloth by any number of methods including doctor blade coating or various types of roller coating, as taught by Munshi, as methods used to apply

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coatings. The use of roller coating methods such as squeeze roll or kiss coaters, reverse roll coaters and transfer roll coaters would have been obvious to one of ordinary skill in the art, as taught by Munshi, as various well known coating methods using a roll that can be used for coating as alternatives to other coating methods such as doctor blade coating.

Allowable Subject Matter

(8)

Claims 82-84 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

(9)

Applicant argues that in Bilhorn, flame spraying is not equivalent to spraying in a dry manner as claimed, argues that in Kilduff, electrostatic spray coating of dry particles is not equivalent to spraying powder in a dry manner as claimed, argues that in Sugikawa, jetting of fine metallic powders is not equivalent, argues that in Door, the spraying is not disclosed as in a dry manner and argues that Munshi is just related to general coating methods.

(10)

Applicant's arguments are not convincing. Bilhorn discloses flame spraying and as taught by Tsukagoshi et al. 5,120,665, flame spraying for forming a metal coating is a dry method. Kilduff discloses using electrostatic spray coating or airless spray systems which are

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methods which spray dry particles, or in a dry manner as claimed. Sugikawa discloses jetting metallic powders which is involves spraying the powders using nitrogen gas (col. 10, lines 32-45), which is spraying of dry particles. Door discloses spraying metal powder OR applying the particles in a liquid dispersion (col. 5, lines 19-28). This suggests that spraying is a dry process. Munshi is pertinent to applying the binder solution or dispersion to the carbon cloth by roll coating, which would have been obvious to one of ordinary skill in the art as a known coating method.

Conclusion

(11)

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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(12)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Curtis Mayes whose telephone number is 571-272-1234.

The examiner can normally be reached on Mon-Fri 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on 571-272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Melvin Curtis Mayes
Primary Examiner
Art Unit 1734

MCM
March 27, 2006